Virus Name: Utinga	Abbreviation: UTIV

Status
Possible Arbovirus

Select Agent
No

SALS Level
3

SALS Basis
Isufficient experience with virus; i.e., experience factor from SALS surveys was less than 500 in laboratory facilities with low biocontainment.

Other Information

Antigenic Group
Simbu

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
BeAn 84785

Accession Number

Original Date Submitted
5/7/1984

Family
Bunyaviridae

Genus
Bunyavirus

Information From
F. Pinheiro and Amelia P.A.T. Rosa

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Information Footnote
Revised

Section II - Original Source

Isolated By (name)
Belem Virus Laboratory

Isolated at Institute
Instituto Evandro Chagas, Belem

Host Genus
Bradypus tridactylus (three-toed sloth)

Species

Host Age/Stage
Adult

Sex
Male

Isolated From	Isolation Details
Whole Blood	

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
By hand

Collection Date
4/22/1965

Place Collected (Minimum of City, State, Country)
Utinga Forest, Belem, Para, Brazil

Latitude
1° 28' S

Longitude
48° 27' W

Macrohabitat
Watershed forest

Microhabitat
Ground level

Method of Storage until Inoculated
At -60dC

Footnotes

Section III - Method of Isolation

Inoculation Date
4/23/1965

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Not tried

Other Reasons
Virus also isolated from the viscera of the Bradypus that yielded virus from blood

Homologous Antibody Formation by Source Animal
Not tested

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical

Pieces (number of genome segments)	Infectivity	Sedimentation Coefficients(s) (S)
Percentage wt, of Virion Protein	Lipid	Carbohydrate
Virion Polypeptides: Number	Details	
Non-virion Polypeptides: Number	Details	
Virion Density	Sedimentation Coefficients(s) (S)	
Nucleocapsid Density	Sedimentation Coefficients(s) (S)	

Stability of Infectivity (effects)

pH (infective range)

Lipid Solvent (ether - % used to test)	After Treatment Titer	Control Titer
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate) **1:1000**	After Treatment Titer **1.2 dex**	Control Titer **6.3 dex**

Other (formalin, radiation)

Virion Morphology

Shape	Dimensions	
Mean nm	Range nm	
Measurement Method	Surface Projections/Envelope	Nucleocapsid Dimensions, Symmetry

Morphogenesis

Site of Constituent Formation in Cell	Site of Virion Assembly	Site of Virion Accumulation
Inclusion Bodies	Other	

Hemagglutination

Hemaggiutination	Antigen Source	Erythrocytes (species used)
Yes	**SMB ext. by sucrose-acetone, + sonication**	**Goose**
pH Range	pH Optimum	
5.8-6.4	**6.4**	
Temperature Range	Temperature Optimum	
RT and 37dC	**37dC**	

Remarks

Serologic Methods Recommended
HI, CF, and NT

Footnotes

Section V - Antigenic Relationship and Lack of Relationship to Other Viruses

Utinga (BeAn 84785) virus is a member of the Simbu group [1] . In the CF test, Utinga antigen reacted with a Simbu group hyperimmune ascitic fluid at a titer of 8/>8 (antibody/antigen) [2] . It was also shown by CF that Utinga and Oropouche (BeAn 19991) viruses are antigenically related, but distinct from each other [2] , as shown below:

Sera	VIRUSES	
	Oropouche	Utinga
Oropouche	64/> 256 *	0
Utinga	16/>256	64/>256

* Antibody titer/antigen titer; 0 = <4/<4

Subsequently, further confirmation was obtained [3] . Furthermore, Utinga virus has been shown to be antigenically distinct from other members of the Simbu group by serum dilution plaque-reduction neutralization tests; and it was placed in the Oropouche complex, one of several complexes comprising the Simbu serogroup [4] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice

Cell system (a)	Virus passage history (b)	Evidence of Infection							
		CPE			PLAQUES			Growth Without CPE	
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	+/- (g)	
Vero (CL)	SM 12	2	4+	7.5**	8	<1 mm	8.1**		

** Expressed in dex

Section VII - Natural Host Range (Additional text can be added below table)

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Bradypus tridactylus (blood, viscera)	1		Utinga forest, Para, Brazil
Bradypus tridactylus	1		Mojui dos Campos, Santarem, Para, Brazil
Man		16/6,909 HI	Amazon region, Brazil
Marsupials		1/834 HI	
Rodents		1/1,692 HI	
Primates		5/461 HI	
Carnivores		0/21 HI	
Ungulates		0/102 HI	
Edentates (sloths)		13/134 HI	
Edentates (sloths)		12/51 HI	Panama (5)
Edentates (others)		0/37 HI	Amazon region, Brazil

Reptiles		0/464 HI	
Bats		1/947 HI	
Wild birds		43/12,351 HI	
Domestic birds		0/239 HI	
Domestic pigs		24/974 HI	
Dogs		0/110 HI	
Cats		0/3 HI	
Sentinel monkeys		1/22 HI	
Sentinel chickens		0/95 HI	
Man		4/1,475 HI	
Sloths	0/54	6/54 HI	Jari, Para, Brazil; 1980
Armadillos and anteaters	0/24	0/24 HI	

Section VIII - Susceptibility to Experimental Infection (include viremia)

Experimental host and age	Passage history and strain	Inoculation Route-Dose	Evidence of infection	AST (days)	Titer log10/ml
Mice (nb)	SM 2	ic 0.02	Illness, death	5.5	
Mice (nb)		ip 0.02	None		
Mice (nb)		sc			
Mice (wn)		ic 0.03	Irregular deaths		
Mice (wn)		ip 0.03	Irregular deaths		
Mice (nb)	SM 24	ic 0.02	Death	4.6	8.0(brain)
Mice (nb)	SM 15	ic 0.02	Viremia, death (5)		5.4(serum)
Mice (nb)		ic 0.02	Death		8.0(brain)

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmision by bite (d)		Assay of arthropod, log10/ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System

Section X - Histopathology

Character of lesions (specify host)

Inclusion Bodies — Intranuclear

Organs/Tissues Affected

Category of tropism

Section XI - Human Disease

In Nature	Residual	Death
Subclinical	Overt Disease	

Clinical Manifestations

Number of Cases — Category (i.e. febrile illness, etc.)

Section XII - Geographic Distribution

Known (Virus detected)
Brazil

Suspected (Antibody only detected)
Panama (5)

Section XIII - References

1. Shope, R.E. and Andrade, A.P.A. In: Woodall, J.P. 1967. Atas do Simposio sobre a Biota Amazonica 6:31-63.
2. Andrade, A.P.A. and Shope, R.E. Unpublished observations.
3. Zachary, I.G. M.D. Thesis, Yale University School of Medicine, 1967.
4. Kinney, R.M. and Calisher, C.H. 1981. Am. J. Trop. Med. Hyg. 30:1307-1318.
5. Belem Virus Laboratory, Belem, Brazil. 1966. Unpublished data.

Remarks